Data Sheet (Cat.No.TMPY-02044)

TargetMol

SOD2 Protein, Human, Recombinant

General Information

Synonyms:	superoxide dismutase 2, mitochondrial;IPOB;MNSOD;MVCD6
Protein Construction:	A DNA sequence encoding the mature form of human SOD2 (P04179-1) (Lys 25-Lys 222) was expressed and purified, with an initial Met. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	P04179-1
Molecular Weight:	22.3 kDa (predicted); 25 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 97 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.5. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Superoxide dismutases (SOD) are important anti-oxidant enzymes that guard against superoxide toxicity. In humans, as in all mammals and most chordates, three forms of superoxide dismutase (SOD) are present: SOD1 is located in the cytoplasm, SOD2 in the mitochondria, and SOD3 is extracellular. Mitochondrial superoxide dismutase [SOD; manganese SOD (MnSOD) or SOD2] neutralizes highly reactive superoxide radical (O•-2), the first member in the plethora of mitochondrial reactive oxygen species.

Reference

Culotta VC, et al. (2006) Activation of superoxide dismutases: putting the metal to the pedal. Biochim Biophys Acta. 1763(7): 747-58.
Bag A, et al. (2008) Target sequence polymorphism of human manganese superoxide dismutase gene and its association with cancer risk: a review. Cancer Epidemiol Biomarkers Prev. 17(12): 3298-305.
Diehl C, et al. (2009) The basis of topical superoxide dismutase antipruritic activity. Acta Dermatovenerol Croat. 17 (1): 25-39.
Ma X, et al. (2010) No association between SOD2 Val16Ala polymorphism and breast cancer susceptibility: a meta-analysis based on 9,710 cases and 11,041 controls. Breast Cancer Res Treat. 122(2): 509-14.

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